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ABSTRACT

The orientation of counties to metropolitan systems and urban centers is identified by population density and percentage of urban population. This analytical framework differentiates 6 kinds of counties, ranging from most urban-oriented (group 1) to least urban-oriented (group 6). With this framework, it can be seen that the economic well-being of county residents varies with the urban orientation of their county. Between 1950 and 1960, county population growth also varied with urban orientation. But in the following 6 years (1960-66), population growth slowed considerably in group 1 counties and moderately in groups 2 and 3 but accelerated in groups 4 and 5. In group 6, the decline was arrested. The quickening growth in the less urban-oriented counties promises to help bring prosperity to many rural areas that were formerly cut off from the mainstream of American economic life. But many of the people who live in these areas are elderly and disabled or lack the education, training, and experience to compete effectively in urban labor markets. Consequently, these people would benefit from training programs and other programs to improve their nutrition, health care, and education. (Author/AL)

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FOCUS FOR AREA DEVELOPMENT ANALYSIS:

Urban Orientation of Counties

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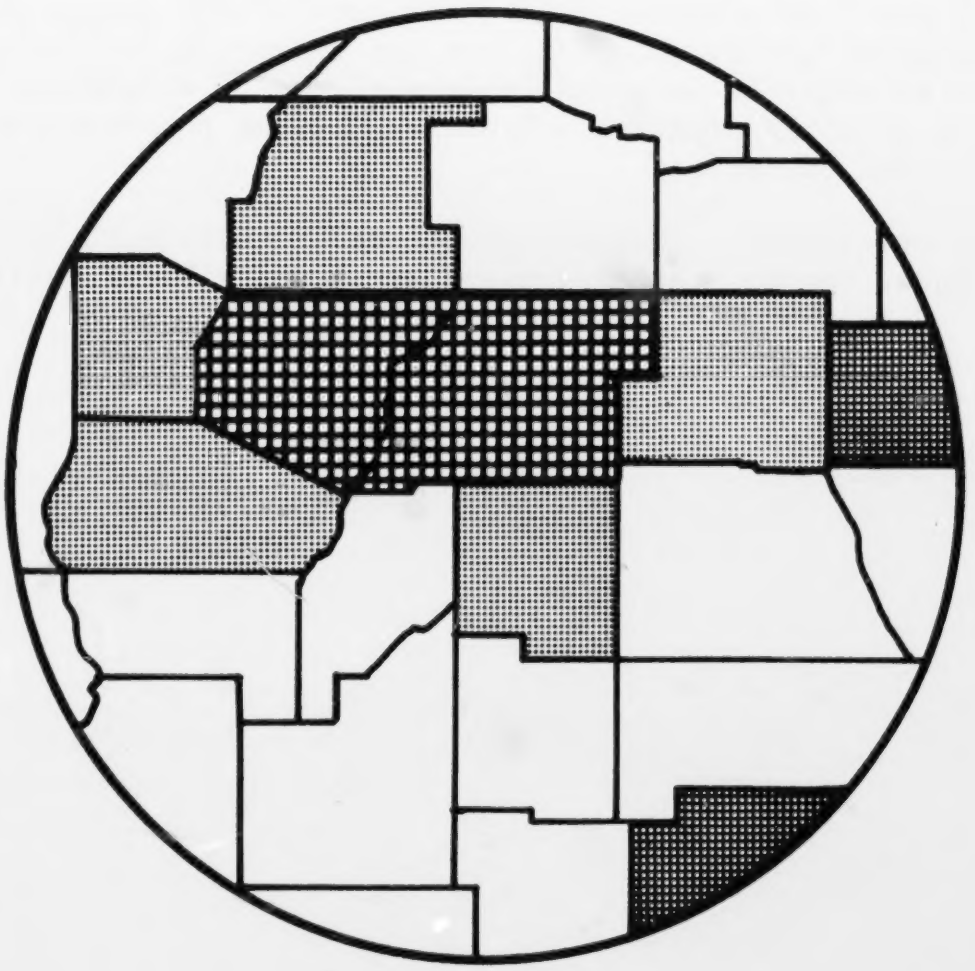

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ECONOMIC RESEARCH SERVICE
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ABSTRACT

The orientation of counties to metropolitan systems and urban centers is identified by population density and percentage of population urban. This analytical framework differentiates six kinds of counties, ranging from most urban-oriented, group 1, to least urban-oriented, group 6. With this framework, it can be seen that the economic well-being of county residents varies with the urban orientation of their county. Between 1950 and 1960, county population growth also varied with urban orientation. But in the following 6 years (1960-66), population growth slowed considerably in group 1 counties and moderately in groups 2 and 3, but accelerated in groups 4 and 5. In group 6, the decline was arrested. The quickening growth in the less urban-oriented counties promises to help bring prosperity to many areas that were formerly cut off from the mainstream of American economic life. But many of the people who live in these areas are elderly and disabled or lack the education, training, and experience to compete effectively in urban labor markets. Consequently, these people would benefit from training programs and other programs to improve their nutrition, health care, and education.

Key Words: Urban orientation, economic growth and development, county delineation, economic space, county analysis, two-dimensional classification

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HIGHLIGHTS

A two-dimensional criterion--density and urbanity of population--provides a basis for identifying the orientation of counties to urban activities within the county or in adjoining counties. This criterion was used to differentiate six groups or types of counties ranging from most urban-oriented (group 1) to least urban-oriented (group 6). The framework is useful as a tool for studying economic activity and organization of counties both similar and different in urban orientation.

Some of the different types of counties tend to cluster around large cities in regular patterns to form interdependent systems or subregions. Subregions made up of heterogeneous county building blocks were not delineated and, therefore, the relationships among the different kinds of counties making up functional economic areas were not explored. Rather, the different groups of counties were considered as different types of economic space.

Group 1 and 2 counties contain large cities and are densely settled. These counties tend to interact strongly with contiguous counties of the same or lower rank. Group 3 counties usually have smaller centers and are isolated to some degree from the activities of adjoining counties. Group 4 counties, which are also sparsely settled, are less urban internally, but tend to cluster around and interact strongly with the highly urban group 1 and 2 counties. Group 5 counties have little internal urban activity and limited access to large urban centers. Group 6 counties are isolated rural places of residence.

For some analytical purposes, it may be useful to consider group 1, 2, and 4 counties as differentiated parts of metropolitan regions, group 5 and 6 counties as rural space, and group 3 counties as semiautonomous urban space. However, these distinctions have not been emphasized.

The industrial structure of counties and the economic well-being of county residents in 1960 varied directly with the counties' urban orientation. Population and employment growth between 1950 and 1960 also varied directly with urban orientation, but between 1960 and 1966, there was a pronounced change in the relative rates of population growth among county groups. During the latter period, growth slowed considerably in group 1, slowed moderately in groups 2 and 3, and accelerated in groups 4 and 5. In group 6, the decline in population was arrested during the 1960's. Between 1960 and 1966, population grew fastest in group 2; but more significantly, growth in group 4 was almost as rapid as in group 1.

The pickup during the 1960's in the rate of population growth in the less urban-oriented counties indicates that many counties formerly isolated from urban activities are becoming more urban-oriented. This development can be attributed largely to three factors. First, the swift application of a technology in which more capital and less labor were used caused a decline in the number of jobs in agriculture and mining in many isolated areas. But this decline in employment had largely stopped by 1960. Second, advances in highway transportation have made the dispersion of homes and jobs more feasible. Third, crowded living and working conditions and increasing crime and social upheaval have made many of the central cities less attractive as places to live in and work in.

To the extent that people in isolated areas have been poor because of insufficient local economic activity, the increase in the urban orientation of space promises some reduction of poverty in some counties. However, a lack of economic development is by no means the only cause of rural poverty. Many people who have been isolated from cities are disabled or elderly or do not have the skills necessary to compete for and obtain jobs in an urban labor market. These people may not benefit much from the expansion of the urban-oriented area. Instead, better trained workers from other areas could get the best of any jobs created by such expansion. Thus, if local residents are to make the best of the situation, when a previously underdeveloped area begins to expand, a set of programs is needed to retrain workers and to raise the level of education, health care, and nutrition.

FOCUS FOR AREA DEVELOPMENT ANALYSIS: URBAN ORIENTATION OF COUNTIES

by

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Economic Development Division
Economic Research Service

INTRODUCTION

To develop and implement sound programs to help poor and disadvantaged people and to stimulate economic development in low-income, slower growing regions, policy makers and planners need to understand better the economic activity of small geographic areas such as counties. Classifying areas into a relatively small number of groups or types on the basis of some common characteristics is a descriptive tool that has contributed to this kind of understanding.

There are two popular ways to classify geographic entities such as counties for the purpose of economic analysis. One way places contiguous, economically interdependent counties in a functional subregion. In this classification system, counties or other areas grouped together are heterogeneous in the sense that one county may be urban, another, rural; one may have considerable manufacturing activity, and another may be residential, and so on. 1/ The other system groups counties together that are homogeneous with respect to various social and economic attributes such as age-mix, income level, or urbanity. 2/ The homogeneous counties may or may not be contiguous; there is no requirement for contiguity. Economically homogeneous geographic entities are said to make up a kind of economic space. 3/

1/ Fox, Karl A., and Kuman, Krishna. Delineating Functional Economic Areas in Research and Education for Regional and Area Development. Iowa State University Press, Ames, pp. 13-55, 1966.

2/ Statisticians at the Census Bureau, using the second approach, divide the country into urban and rural areas. They define urban areas to include all places with 2,500 or more inhabitants, together with part of the densely settled fringes that surround some of the larger cities. All other areas, they define as rural.

3/ J.R. Boudeville. Problems of Regional Economic Planning. Chapter 1, Edinburgh University Press, 1966.

In the study reported on here, the second approach is used: Counties are grouped according to homogeneous densities and proportions of urban residents. The objective is to identify groups of counties that have residents who are homogeneous in their access to urban activities within the county or in adjoining counties. The greater access county residents have to urban activities, the more highly urban-oriented the county is said to be. The classification technique used here differs from similar classifications used elsewhere in that it employs a joint or two-way criterion--density and urbanity--rather than a single variable or index number to sort the geographic entities.

The county groups provide a framework for studying (1) variation in the economic activity and organization of counties similar in urban orientation and (2) variation among groups of counties that differ in urban orientation. In using the classifications as a descriptive tool, this report considers only the variation in population and employment growth, income, education, age, and race among county groups. However, the framework presented could be used to study the distribution of industrial activity to gain insight into the kinds of activities that depressed areas, particularly isolated areas, may realistically hope to attract in efforts to revitalize their economies.

URBAN-ORIENTED COUNTY GROUPINGS

The percentage of the county population living in urban areas and the county population density in 1960 were jointly used to identify the urban orientation of counties. Information was developed for 17 density-urbanity groups. Later, these 17 groups were aggregated into six groups that appeared to capture most of the differences in the urban orientation of counties. 4/ The class intervals were set not to minimize variation within the groups, but rather to produce a hierarchical pattern in the geographic distribution of counties with different urban orientation.

The six groups are: (1) metropolitan, (2) urban, (3) semi-isolated urban, (4) densely settled rural, (5) sparsely settled rural with some urban population, and (6) sparsely settled rural with no urban population. Group 1 is most urban-oriented, and group 6 is least urban-oriented. Figure 1 shows the limits that define the six groups of counties with respect to population density and percentage of population that is urban.

As shown in figure 1 and again in figure 2, a county moves up the urban-orientation ladder as the county becomes more densely settled or as its population becomes more concentrated in urban areas. The figures show that some groups of counties are distinctly different from some others, while some counties in adjacent groups are similar to each other. For example, counties in group 1 are distinctly different from counties in groups 4, 5, and 6. On the other hand, some counties in groups 2 and 3 may be quite similar to some counties in group 1.

4/ For Virginia, data are reported separately for counties and independent cities. To make density-urbanity classifications for geographic units in Virginia more comparable with classifications for counties in other States, data for some Virginia counties and independent cities are combined.

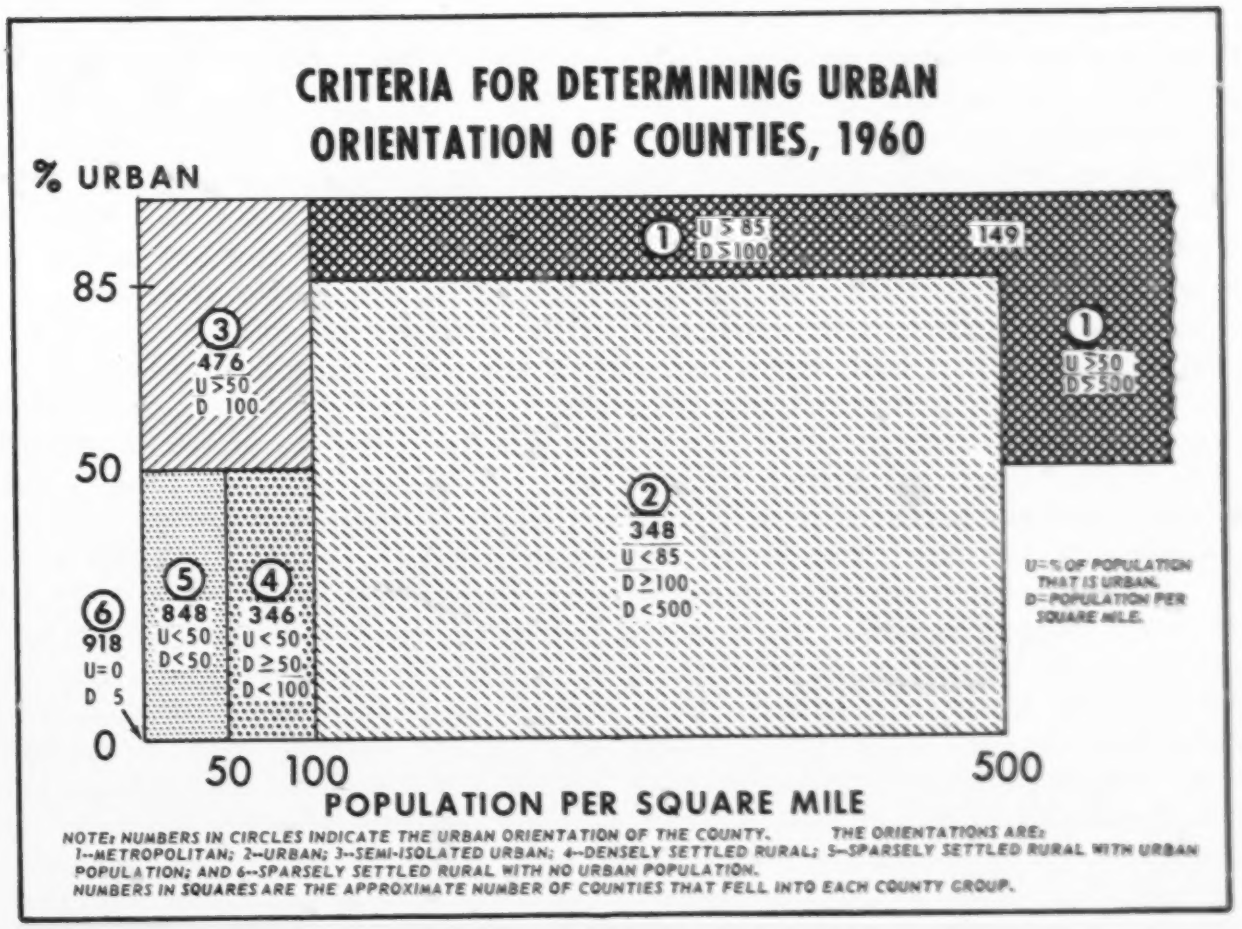

CRITERIA FOR DETERMINING URBAN ORIENTATION OF COUNTIES, 1960
% URBAN
85
50
0
1 U ≥ 85 D ≥ 100
149
1 U ≥ 50 D ≤ 500
3 476 U ≥ 50 D 100
2 348 U < 85 D ≥ 100 D < 500
5 848 U < 50 D < 50
4 346 U < 50 D ≥ 50 D < 100
6 918 U = 0 D 5
50 100
500
POPULATION PER SQUARE MILE
U = % OF POPULATION THAT IS URBAN. D = POPULATION PER SQUARE MILE.
NOTE: NUMBERS IN CIRCLES INDICATE THE URBAN ORIENTATION OF THE COUNTY. THE ORIENTATIONS ARE: 1--METROPOLITAN; 2--URBAN; 3--SEMI-ISOLATED URBAN; 4--DENSELY SETTLED RURAL; 5--SPARSELY SETTLED RURAL WITH URBAN POPULATION; AND 6--SPARSELY SETTLED RURAL WITH NO URBAN POPULATION.
NUMBERS IN SQUARES ARE THE APPROXIMATE NUMBER OF COUNTIES THAT FELL INTO EACH COUNTY GROUP.

Figure 1

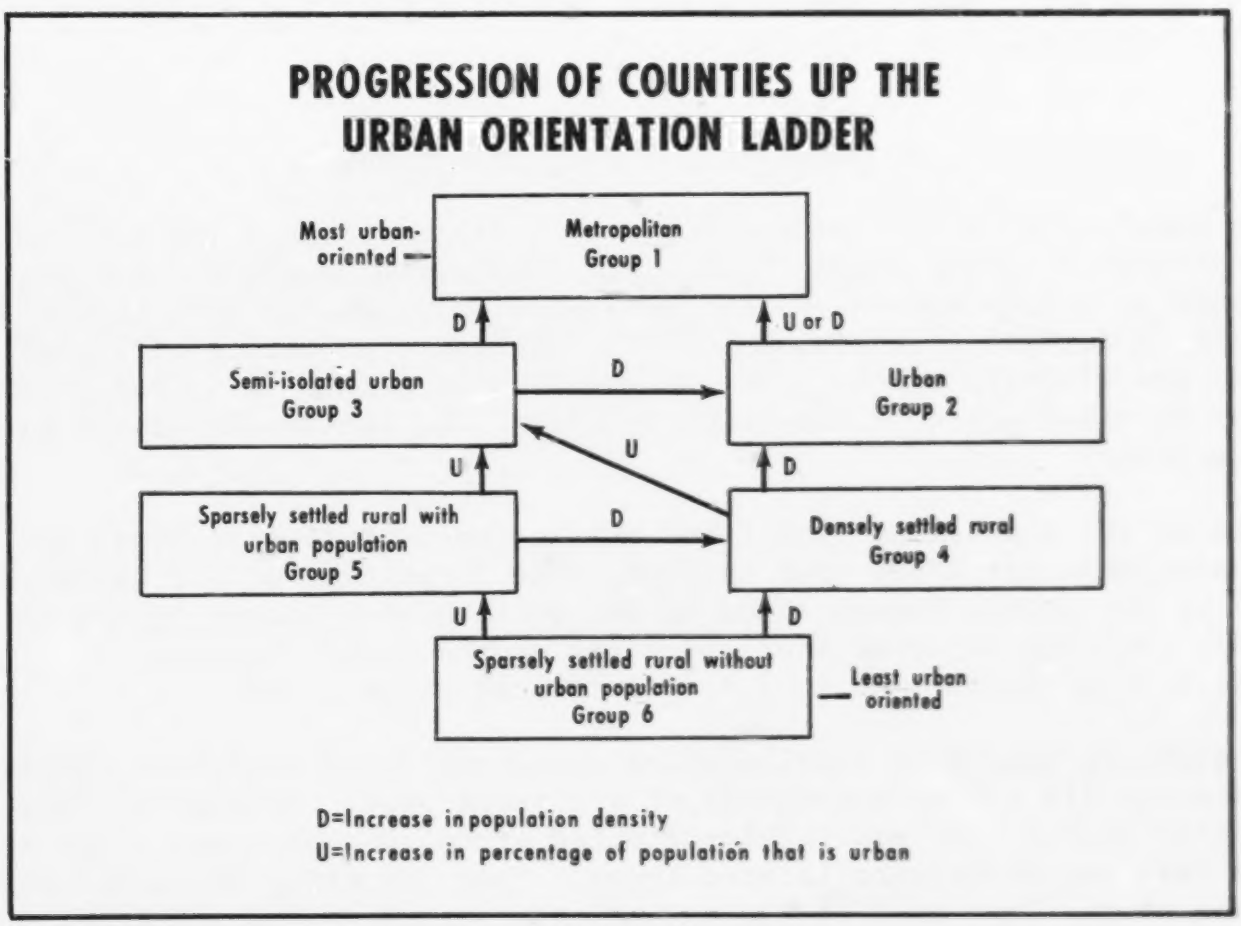


Figure 2

When the groups of counties are located on a map, as in figure 3, some interesting configurations emerge. Many metropolitan counties, group 1, especially in the northeastern quarter of the country and on the Pacific coast, appear as densely settled cores of metropolitan regions--systems with central cities that have more than a quarter of a million people. These counties overlie the Census Bureau's larger urbanized areas that are shown in figure 4. Urban counties, group 2, sometimes overlie the smaller urbanized areas in figure 4 and frequently surround metropolitan counties. The residents of most of these group 2 counties have easy access to cities with 100,000 people or more. Densely settled rural counties, group 4, also tend to have a city of at least 25,000 people or, more often, be served by a larger city in an adjoining county. In the most densely settled metropolitan regions, group 2 counties tend to form the inner ring and group 4 counties, the outer ring. Group 3, which contains semi-isolated urban counties, is the most variable group. These counties vary tremendously in size from under 200 square miles to over 20,000 square miles (fig. 3). Their largest cities range widely in size from less than 25,000 people to more than 250,000. This group has some counties that are quite similar internally to some counties in groups 1, 2, 4, or 5. For example, Maricopa County, Ariz., is a semi-isolated urban county. But the part of this county surrounding the city of Phoenix is quite similar to a metropolitan county. Most of the semi-isolated urban counties that cluster around metropolitan, urban, or other semi-isolated urban counties have parts that are similar to some urban or densely settled rural counties. The last two groups of counties, sparsely settled rural with some urban population (group 5), and sparsely settled rural with no urban population (group 6), appear in figure 3 as spaces between the first four groups of counties. To simplify the map, these two groups are shown together as a single group, sparsely settled rural counties. Nearly all of the counties in groups 5 and 6 are relatively isolated from the activities of any city with a population as large as 25,000.

DISTRIBUTION OF PEOPLE AND LAND

The population of the coterminous United States totaled 195 million in 1966. Some 48 percent of these people lived in metropolitan counties--counties that had easy access to a city with a quarter of a million people or more (table 1). An additional 21 percent lived in or next to counties with cities of 25,000 people or more. And 27 percent more lived in counties in groups 3, 4, and 5--counties served by an urban place of some kind either within the county itself or in an adjoining county.

Data on the population classified by the Census Bureau as urban and rural are not available for 1966. But in 1960, some 35 percent of all people defined as rural by the Census Bureau lived in the most urban-oriented groups of counties (1 and 2). Another 50 percent of the rural people lived in groups 3, 4, and 5, and most of these people had good access to some urban place.

As might be expected, rural nonfarm residents lived nearer to cities than farm residents did. Over two-thirds of the rural people living off-farm in 1960 were located in the four most urban-oriented groups of counties, while less than half the farm residents were located there. These counties accounted for only 41 percent of the land area of the coterminous United States in 1960.

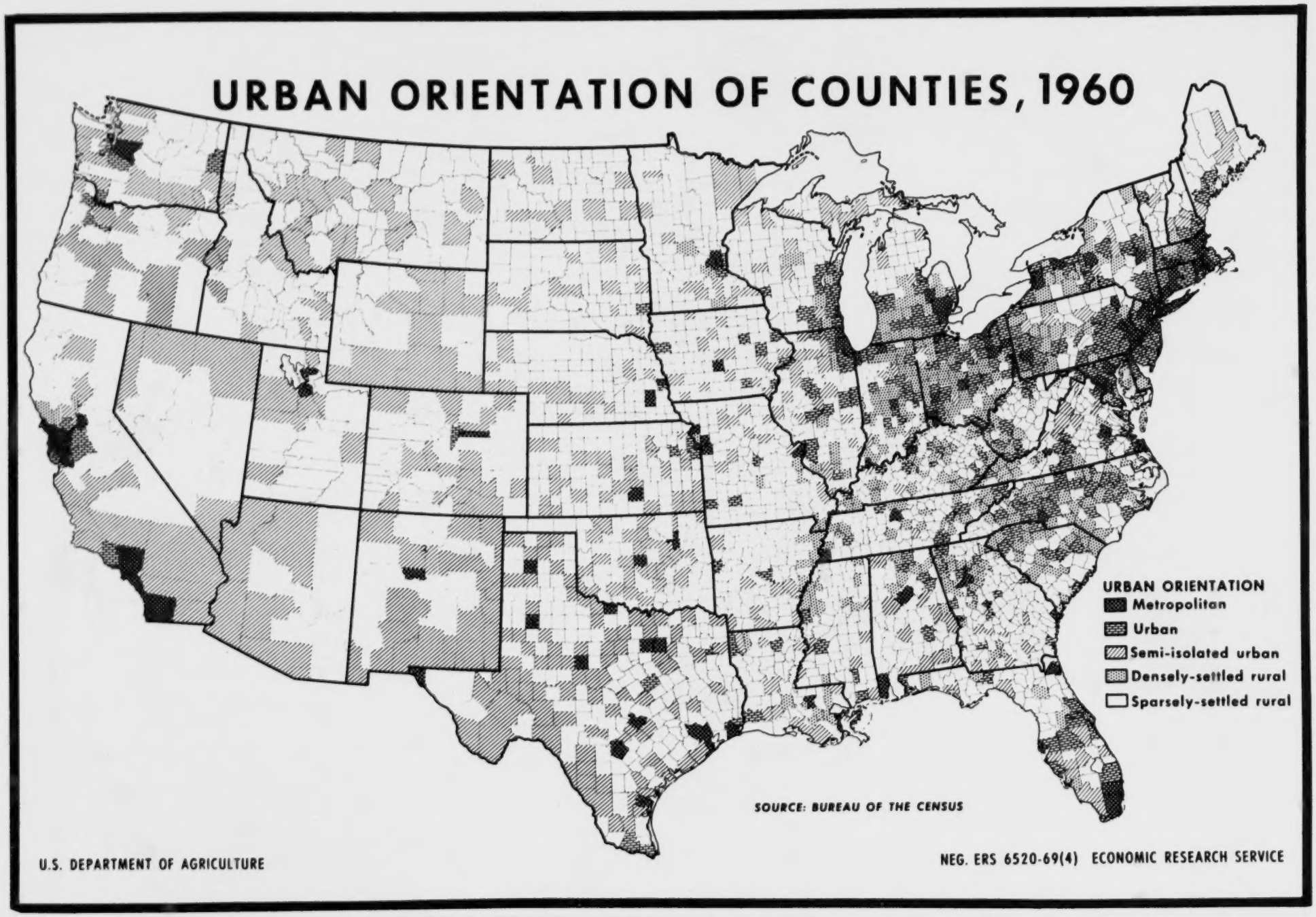

URBAN ORIENTATION OF COUNTIES, 1960
URBAN ORIENTATION
Metropolitan
Urban
Semi-isolated urban
Densely-settled rural
Sparsely-settled rural
SOURCE: BUREAU OF THE CENSUS
U.S. DEPARTMENT OF AGRICULTURE
NEG. ERS 6520-69(4) ECONOMIC RESEARCH SERVICE

Figure 3

Figure 4

POPULATION DISTRIBUTION: 1960

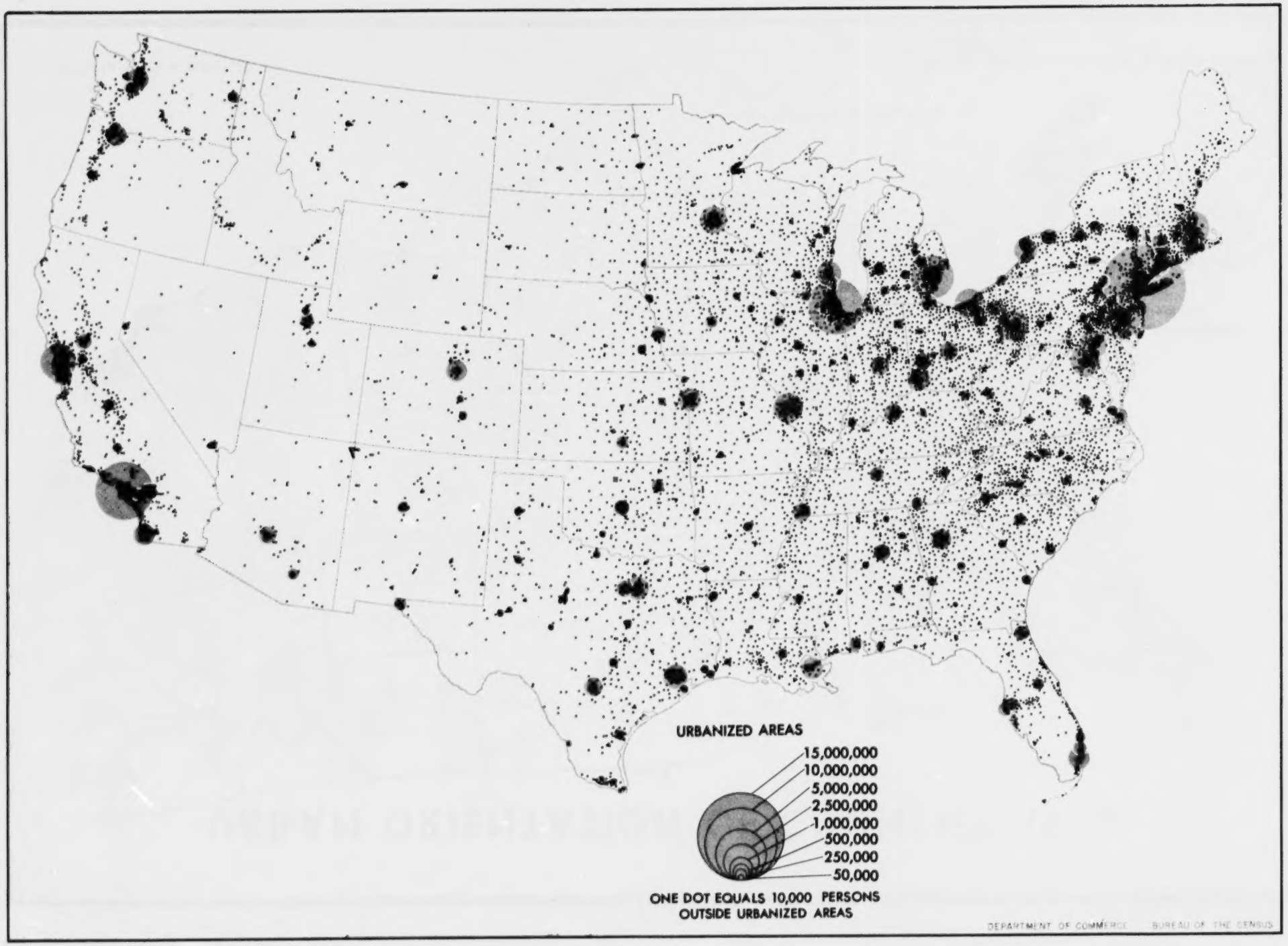


Table 1.--Distribution of populations and land, by urban-oriented county group, 1960 with comparisons

Item	County group						All counties 1/
	Metropolitan (1)	Urban (2)	Semi-isolated urban (3)	Densely settled rural (4)	Sparsely settled rural: With urban population (5)	Sparsely settled rural: Without urban population (6)	
	Thousands						
Distribution of totals:							
Population:							
1950	68,603	29,981	15,069	11,368	17,445	8,176	150,642
1960	86,016	36,780	18,378	12,197	17,637	7,444	178,452
1966	94,316	40,998	20,432	13,168	18,461	7,559	194,934
Urban, 1960	80,359	24,179	12,292	3,816	5,837	0	126,483
Rural, 1960							
Total	5,657	12,601	6,086	8,381	11,800	7,444	51,969
Farm	454	2,081	1,762	2,280	4,213	2,618	13,408
Nonfarm	5,203	10,520	4,324	6,101	7,587	4,826	38,561
Land, square miles	82	193	779	175	870	872	2,971
	Percent						
Distribution among county groups:							
Population:							
1950	45.5	19.9	10.0	7.6	11.6	5.4	100.0
1960	48.2	20.6	10.3	6.8	9.9	4.2	100.0
1966	48.4	21.0	10.5	6.8	9.5	3.9	100.0
Urban, 1960	63.5	19.1	9.7	3.0	4.6	0	100.0
Rural, 1960							
Total	10.9	24.3	11.7	16.1	22.7	14.4	100.0
Farm	3.4	15.5	13.1	17.0	31.4	19.6	100.0
Nonfarm	13.5	27.3	11.2	15.8	19.7	12.5	100.0
Land, square miles	2.8	6.5	26.2	5.9	29.3	29.3	100.0
Distribution among Census population groups:							
Population:							
Urban	93.4	65.7	66.9	31.3	33.1	0	70.9
Rural							
Total	6.6	34.3	33.1	68.7	66.9	100.0	29.1
Farm	.5	5.7	9.6	18.7	23.9	35.2	7.5
Nonfarm	6.0	28.6	23.5	50.0	43.0	64.8	21.6
All groups 1/	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1/ Detail may not add exactly to totals due to rounding.

Source: Adapted from Census Bureau data.

WELL-BEING AND URBAN ORIENTATION

Commonly used indices of development and well-being show that people in the more urban-oriented counties in the early 1960's were better off than people in the more isolated counties (table 2 and fig. 5). The number of families, per 100 residents, with annual incomes of less than $3,000 in 1959 increased steadily from only 3.6 in the most urban-oriented metropolitan counties to 11.8 in the least urban-oriented sparsely settled rural counties (table 2). The increase in per capita income with increased urban orientation is even more dramatic. At $2,210, per capita income in metropolitan counties is more than twice as high as that in the least urban-oriented rural counties.

The number of people, per 100 residents, with less than a high school education is 31.8 in metropolitan counties, compared with 38.4 in the most isolated group of counties. This number increases steadily as counties become less urban-oriented, but in semi-isolated urban counties, group 3, the ratio dips to 30.3. This drop reflects the fact that many group 3 counties are retirement, educational, or health care areas. They are less likely to have as large a proportion of disadvantaged people as the more congested counties in groups 1 and 2. The measurement, years of school attended, however, may understate differences in the educational level among residents of the urban-oriented groups of counties because such a measurement does not allow for variation in the quality of education nor the impacts of selective migration.

The number of people 65 years and over, per 100 residents, increased steadily from 8.6 in metropolitan counties to 11.8 in the most isolated rural counties. Except in retirement areas, a relatively large proportion of older people suggests heavy outmigration and a depletion of the working-age population. Net migration rates between 1960 and 1966 are discussed in the next section.

PATTERNS OF POPULATION GROWTH

Population between 1950 and 1966 rose twice as fast in the three most urban-oriented groups of counties as in group 4 counties, and four times as fast as in group 5 counties. In group 6 counties, population declined. The compound annual average rates of change during the 16-year period, by county groups, were:

Group	Percent
1. Metropolitan	2.1
2. Urban	2.0
3. Semi-isolated	2.0
4. Densely settled rural	.9
5. Sparsely settled rural with urban population	.4
6. Sparsely settled rural without urban population	-.5
All counties	1.8

But significant changes occurred in the rate of population growth between the beginning (first 10 years) and the end (last 6 years) of the 16-year period (fig. 6).

Table 2.--Indices of income, 1959, and of education and age, 1960, by urban-oriented county group

Item	Unit	County group						All counties
		Metropolitan (1)	Urban (2)	Semi-isolated urban (3)	Densely settled rural (4)	Sparsely settled rural: With urban population (5)	Sparsely settled rural: Without urban population (6)	
Number per 100 residents:								
Families with annual incomes under $3,000 in 1959	Number	3.6	5.1	6.1	8.4	9.4	11.8	5.4
Persons 25 years and over in 1960 not completing high school	do.	31.8	32.4	30.3	35.5	35.9	38.4	32.7
Persons 65 years and over in 1960	do.	8.6	8.6	9.1	9.4	10.8	11.8	9.1
Per capita income in 1959	Dollars	2,210	1,727	1,638	1,316	1,260	1,069	1,849

Source: Adapted from Census Bureau data.

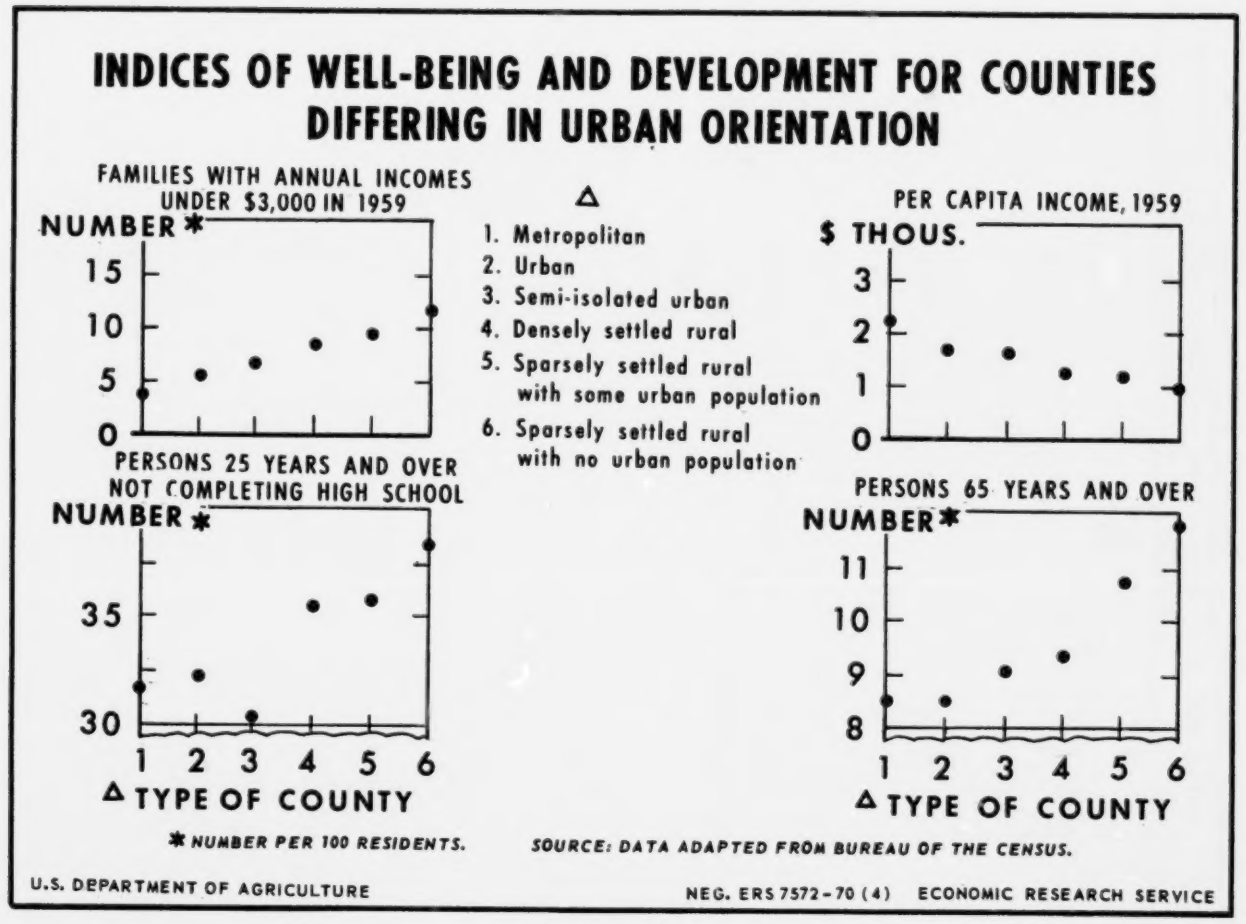


Figure 5

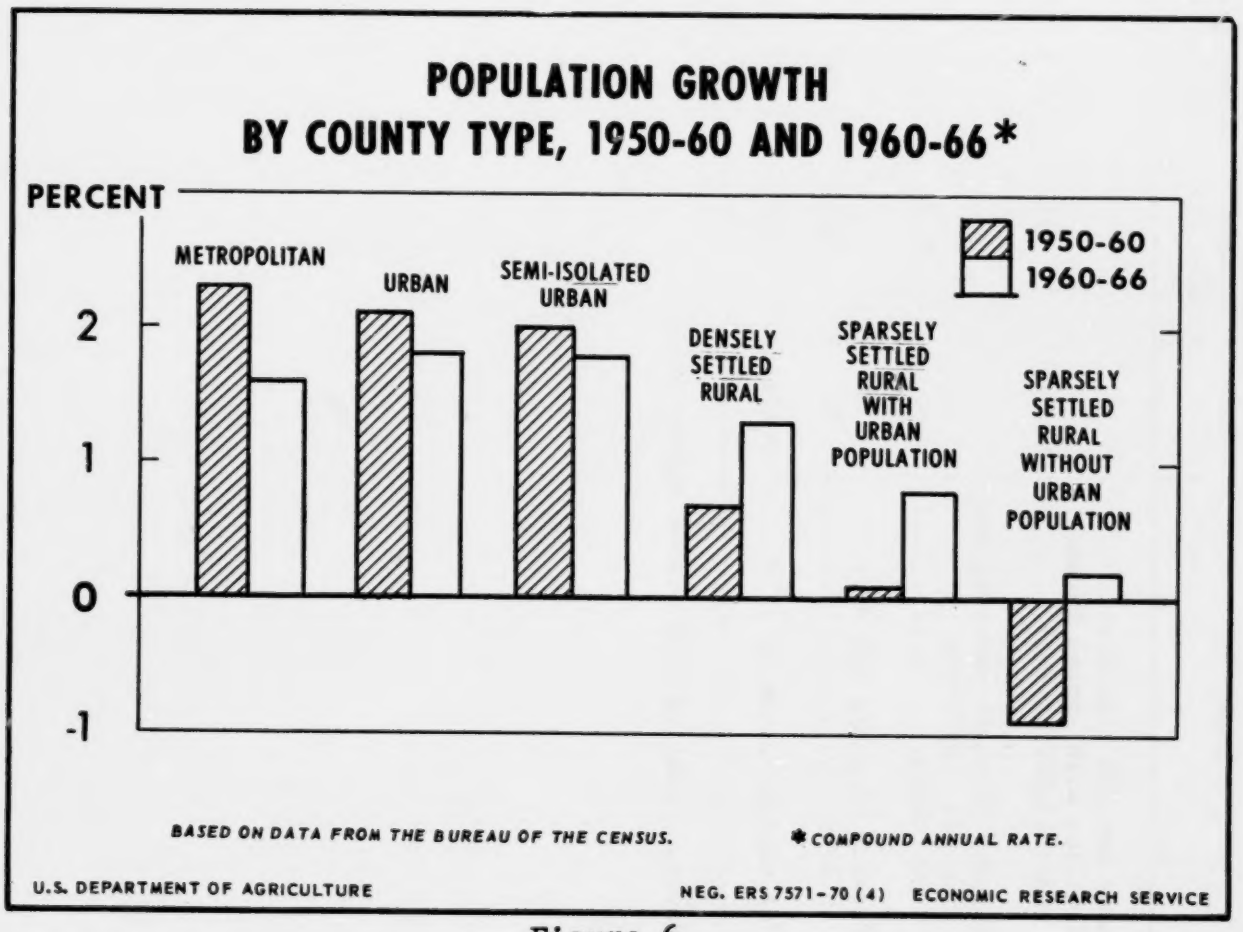


Figure 6

The compound annual growth rates for the first years and last years (in parenthesis) of the 16-year period, by county groups, were:

Group	Percent	
1. Metropolitan	2.3	(1.6)
2. Urban	2.1	(1.8)
3. Semi-isolated	2.0	(1.8)
4. Densely settled rural	.7	(1.3)
5. Sparsely settled rural with urban population	.1	(.8)
6. Sparsely settled rural without urban population	-.9	(.2)
All counties	1.7	(1.5)

During the end of the period (1960-66) compared with the beginning (1950-60), population expansion slowed considerably in metropolitan counties, slowed moderately in urban counties, and accelerated in densely settled rural counties and in sparsely settled rural counties with some urban population, and the decline in population in sparsely settled rural counties with no urban population was arrested. More recent data for Standard Metropolitan Statistical Areas, while not strictly comparable to data in this report, suggest that between 1966 and 1968, the rate of population growth in metropolitan and urban counties, groups 1 and 2, continued to slacken in relation to the rate for other groups. 5/

The components of the 1950-66 population changes are shown in table 3. The net movement of people among the urban-oriented groups of counties was from the most sparsely settled rural counties, groups 5 and 6, to the most urban counties, groups 1, 2, and 3. But a large proportion of the net county in-migration can be attributed to a net inflow of people from foreign countries. Urban counties, group 2, which experienced the greatest rate of increase in population during the 6-year period, had the largest net in-migration rate, the lowest death rate, and the second highest birth rate. Semi-isolated urban counties, group 3, which were second in overall rate of growth, had the highest birth rate, the lowest death rate, and the second highest rate of net in-migration. In metropolitan counties, group 1, the faster-than-average population growth during 1960-66 was due almost entirely to heavier-than-average net in-migration. The birth and death rates for this group were about average. In densely settled rural counties, group 4, the natural increase accounted for all of the gain in population; there was little net in-migration. But because net immigration into the United States was positive, these counties had a smaller-than-average gain in population. Group 5 and 6 counties, which had only small gains in population during the 6-year period, had lower-than-average birth rates, higher-than-average death rates and net out-migration. The lower birth rates and the higher death rates result partly from the heavy concentration of older people in these counties.

The distribution of population growth among the six types of counties between 1950 and 1960 (table 4 and fig. 7) differed significantly by race. While essentially all of the gain in population for both white and other races occurred

5/ Trends in Social and Economic Conditions in Metropolitan Areas, Bureau of the Census, Current Population Reports, Series No. 27, p. 23. Feb. 1969.

Table 3.--Components of population change, by urban-oriented county group, 1960-66 1/

Population change	County group						All counties
	Metropolitan (1)	Urban (2)	Semi-isolated urban (3)	Densely settled rural (4)	Sparsely settled rural: With urban population (5)	Sparsely settled rural: Without urban population (6)	
	Thousands						
Absolute:							
Total	8,300	4,218	2,054	971	824	115	16,482
Births	12,247	5,355	2,748	1,743	2,380	961	25,434
Deaths	5,293	2,198	1,091	776	1,190	508	11,056
Net migration	1,346	1,063	397	6	-365	-335	2,112
	Percent						
Relative: 2/							
Total	9.6	11.5	11.2	7.9	4.7	1.5	9.2
Births	14.2	14.6	15.0	14.3	13.5	12.9	14.3
Deaths	6.1	6.0	6.0	6.4	6.7	6.8	6.2
Net migration	1.6	2.9	2.2	3/	-2.1	-4.5	1.1
	Number						
Ratio of births to deaths	2.31	2.44	2.52	2.24	2.00	1.89	2.30

1/ Detail may not add exactly to totals due to rounding.
2/ Percentage of 1960 population.
3/ Less than .05.

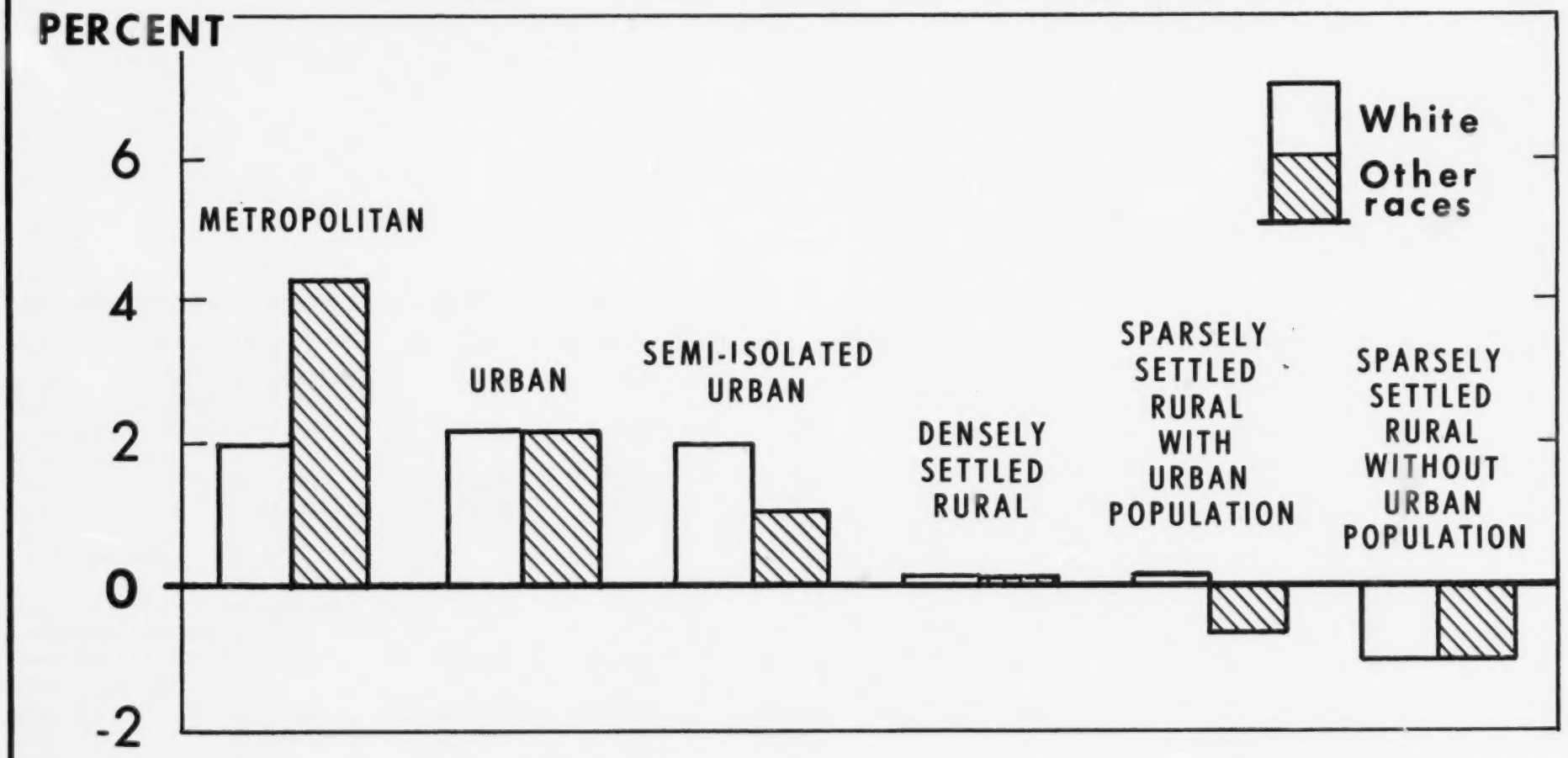
Source: Adapted from Census Bureau data.

Table 4.--Population, white and other races, by urban-oriented county group, 1950 and 1960

Item	Unit	County group						All counties
		Metropolitan (1)	Urban (2)	Semi-isolated urban (3)	Densely settled rural (4)	Sparsely settled rural		
						With urban population (5)	Without urban population (6)	
White population:								
Total:								
1950	Thousands	61,641	27,286	13,870	9,848	15,109	7,131	134,885
1960	do.	75,416	33,466	16,990	10,665	15,427	6,485	158,449
Change, 1950-60:								
Absolute	do.	13,775	6,180	3,120	817	318	-646	23,564
Compounded annual rate	Percent	2.0	2.1	2.0	.1	.2	-1.0	1.6
Other population:								
Total:								
1950	Thousands	6,962	2,695	1,199	1,520	2,336	1,045	15,757
1960	do.	10,600	3,314	1,388	1,532	2,210	959	20,003
Change, 1950-60:								
Absolute	do.	3,638	619	189	12	-126	-86	4,246
Compounded annual rate	Percent	4.3	2.1	1.1	.1	-.6	-1.0	2.4

Source: Adapted from Census Bureau data.

POPULATION GROWTH *
BY RACE AND COUNTY TYPE, 1950- 60



BASED ON DATA FROM THE BUREAU OF THE CENSUS.

*COMPOUND ANNUAL RATE.

U.S. DEPARTMENT OF AGRICULTURE NEG. ERS 7570-70 (4) ECONOMIC RESEARCH SERVICE

Figure 7

in the three most urban-oriented groups of counties, the gain for other races was much more heavily concentrated in metropolitan counties. Of the total change of 4.2 million for other races, 82 percent occurred in metropolitan counties, 14 percent, in urban counties, and 4 percent, in semi-isolated urban counties. For the white population, 55 percent of the 24.9 million change took place in metropolitan counties, 25 percent, in urban counties and 13 percent, in semi-isolated urban counties. Figure 7 shows that between 1950 and 1960, population of other races grew more than twice as fast as population of the white race in metropolitan counties, at the same rate in urban counties, and slower in semi-isolated urban counties. Population changes by race in Standard Metropolitan Statistical Areas between 1966 and 1968 suggest that these 1960-66 trends have continued in group 1 and 2 counties.

There was essentially no difference in the rates of population change during 1950-60 for white and other races in group 4 and group 6 counties. In group 4 counties, both populations showed practically no change, and in group 6 counties, they both declined about 1 percent. In group 5 counties, the white population eked out a fractional gain while the population of other races experienced a 1-percent loss.

EMPLOYMENT GROWTH

The pattern of variation in industrial structure with increased urban orientation provides a basis, other than geographic location and average level of education, for considering group 1, 2, and 4 counties as differentiated parts of metropolitan regions, groups 5 and 6 as rural space, and group 3 counties as semiautonomous urban space.

Changes in total employment between 1950 and 1960, like changes in population, varied with urban orientation. But largely because expansion in overall economic activity was sluggish during the decade, employment in each of the six urban-oriented groups of counties increased less than population. The percentage changes in employment and in population (in parenthesis) were:

Group	Percent	
1. Metropolitan	20.0	(25.4)
2. Urban	17.3	(22.7)
3. Semi-isolated urban	17.9	(22.0)
4. Densely settled rural	4.8	(7.3)
5. Sparsely settled rural with urban population	-2.4	(1.3)
6. Sparsely settled rural without urban population	-12.0	(-9.0)

Table 3.--Employment growth and industrial structure, by urban-oriented county group, 1950-60 and 1960

Item	Total employment			Employment in 1960			
	1950	1960	Percentage change, 1950-60	Services	Manufacturing	Agriculture and mining	Construction
Number of persons in group--	Thous.	Thous.	Pct.	Thous.	Thous.	Thous.	Thous.
1	27,520	33,034	20.0	21,105	9,710	429	1,790
2	11,011	12,918	17.3	7,237	4,118	790	772
3	5,231	6,246	19.4	3,881	1,091	828	446
4	3,884	4,069	4.8	2,006	1,114	696	253
5	5,863	5,720	-2.4	2,905	1,077	1,368	370
6	2,710	2,385	-12.0	1,069	366	791	159
Total	56,239	64,372	14.5	38,203	17,476	4,902	3,790
Distribution of persons among employment categories in group--	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
1	--	100.0	--	63.9	29.4	1.3	5.4
2	--	100.0	--	56.0	31.9	6.1	6.0
3	--	100.0	--	62.1	17.5	13.3	7.1
4	--	100.0	--	49.3	27.4	17.1	6.2
5	--	100.0	--	50.8	18.8	23.9	6.5
6	--	100.0	--	44.8	15.3	33.2	6.7
Total	--	100.0	--	59.3	27.1	7.6	5.9
Distribution of persons among the six county groups--							
1	48.9	51.3	8.5	55.2	55.6	8.7	47.2
2	19.6	20.1	16.1	18.9	23.6	16.1	20.4
3	9.3	9.7	16.9	10.2	6.2	16.9	11.8
4	6.9	6.3	14.2	5.3	6.4	14.2	6.7
5	10.4	8.9	27.9	7.6	6.2	27.9	9.8
6	4.8	3.7	16.1	2.8	2.1	16.1	4.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Adapted from Census Bureau data.

INDUSTRIAL STRUCTURE

The distribution of workers in 1960 among four major employment categories--(1) services, (2) manufacturing, (3) agriculture and mining, and (4) construction--was association largely with urban orientation. Group 1 counties had a relatively large proportion of their labor force in services and manufacturing (table 5). Group 2 counties specialized in manufacturing and were below average in services, and agriculture and mining. Group 3 counties had more than average proportion of workers in all categories except manufacturing. Group 4 counties were above average except for services. Finally, group 5 and 6 counties were heavily committed to agriculture, mining, and construction, and less committed to other activities.

If the somewhat atypical group 3 counties are excluded, there is a high correlation between rank in urban orientation and ranks in the proportion of workers in each of the four major categories of employment. This is shown in the table below.

Table 6.--Rank in percentage of employment in major categories, by urban-oriented county group, 1960

County group 1/	Rank in percentage of employment in--			
	Services	Manufacturing	Agriculture and mining	Construction
1	1	2	5	5
2	2	1	4	4
4	3	3	3	3
5	4	4	2	2
6	5	5	1	1

1/ Excludes data for group 3 counties.

Group 1 counties had relatively less employment in manufacturing in relation to employment in services; the reverse was true of group 2 counties. Since group 2 counties tend to cluster around group 1 counties to form the central parts of metropolitan regions, this means that in metropolitan regions, service activities are concentrated in the more densely settled core counties, and manufacturing activities are at some distance away from the core. Group 1 and 2 counties also provide some services for group 4 counties. In 1960, the proportion of workers employed in the service industries in group 1, 2, and 4 counties combined was 60.7 percent, above the U.S. average of 59.3 percent, but below the 62.1 percent in the semi-isolated urban counties, group 3. Among group 4, 5, and 6 counties,

the rank correlations are perfect. Group 3 counties, eliminated from the above comparison, ranked highest among the six groups in construction, second highest in services, third in agriculture and mining, and fourth in manufacturing. These counties appear to represent a rather unique kind of economic space that does not fit as neatly into the urban-oriented continuum as do groups 1, 2, 4, 5, and 6. Cities in group 3 counties tend to be isolated from other cities, their industrial structure is different, and their population has achieved the highest level of education.

FACTORS INFLUENCING GROWTH PATTERNS

Researchers have attributed the step-up in employment and human settlement in the less urban-oriented counties to a number of factors. First, much of the downward adjustment in employment in agriculture and mining, which resulted from the rapid adoption of capital-intensive and labor-saving technology, had been made by 1960. While these adjustments continue, the reductions in employment are much smaller. Second, other technological developments and economic changes have made decentralization more economically feasible. 6/ Advances in highway transportation and rising personal incomes have enabled more and more families to move away from central cities to obtain more space, greater privacy, and a more esthetic, healthful, and safe environment. Also, reduced trucking costs and lower transportation costs for workers and consumers have made the less urban-oriented counties more competitive for production and marketing activities. This increased competitiveness applies especially to activities with new production methods that require sprawling single-story plants. Besides changes in transportation, improvements in communications now permit many routine functions, formerly performed in the home office or main plant in a central city, to be accomplished more economically in branches located in small towns. On the other hand, more congestion, pollution, crime, and social tension, in many central cities have made these larger cities less desirable places in which to live and work.

POLICY IMPLICATIONS

The diffusion of growth to the less urban-oriented counties indicates that some counties that were formerly isolated from cities are becoming more urban-oriented. To the extent that poverty in previously isolated counties has been due to an insufficiency of demand for labor in the locality, this diffusion of growth promises to help alleviate the problem.

However, many people in isolated areas are elderly or disabled or lack the education, training, and experience to compete effectively in urban labor markets. Bender and Green have concluded from their research that in-migrants outcompete

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6/ Kain, John F. The Distribution and Movement of Jobs and Industry, in the Metropolitan Enigma, edited by James Q. Wilson. Chamber of Commerce of the United States, 1967.

local residents for newly created jobs in some communities in the Ozarks. 7/ Essentially the same picture emerges in an analysis of accepted and rejected applications for employment in an aluminum plant that was built in a relatively isolated and underdeveloped rural county in West Virginia. 8/ Preference in hiring was given to persons 25 to 35 years of age who had previously worked in the aluminum industry. The physically handicapped were less preferred. It also was necessary to hire from a wider geographic area than originally planned.

Consequently, even after economic activity begins to increase in a previously isolated area, the well-being of many local residents remains essentially unchanged. During this period, a set of programs is needed to help residents make the most of the improving situation--training programs to improve their chances of getting the newly created jobs and other programs to improve the level of education, health care, and nutrition.

☆ U. S. GOVERNMENT PRINTING OFFICE : 1970--394-382/ERS-89

7/ Bender, Lloyd D., and Green, Bernal F. "Adaptive Change by the Ozarks Economy," paper presented at annual meeting of the Amer. Agr. Econ. Assoc., 1969.

8/ Somers, G. G. Labor Supply and Mobility in a Newly Industrialized Area. U.S. Dept. of Labor, Bul. 1261, 1960.